

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Withdrawn): A driver circuit for an EL display panel comprising:

reference current generating means of generating a reference current;

a first current source which is fed the reference current from the reference current generating means and outputs a first current which corresponds to the reference current to a plurality of second current sources;

the second current sources which are fed the first current outputted from the first current source and output a second current which corresponds to the first current to a plurality of third current sources; and

the third current sources which are fed the second current outputted from the second current sources and output a third current which corresponds to the second current to a plurality of fourth current sources,

characterize in that among the fourth current sources, an appropriate number of unit current sources are selected according to input image data.

Claim 2 (Withdrawn): A driver circuit for an EL display panel comprising:

a plurality of current generator circuits each of which includes unit transistors equal in number to a power of two;

switch circuits connected to the respective current generator circuits;

internal wiring connected to output terminals; and

a control circuit configured to turn on and off the switch circuits according to input data,

wherein a first end of each switch circuit is connected to the current generator circuit and a second end of each switch circuit is connected to the internal wiring.

Claim 3 (Withdrawn): The driver circuit for an EL display panel according to claim 2, wherein:

channel width W of the unit transistors is from 2 to 9 μm both inclusive, and
size (WL) of the transistors is 4 square μm or more.

Claim 4 (Withdrawn): The driver circuit for an EL display panel according to claim 2, wherein:

a ratio of channel length L to channel width W of the unit transistors is two or larger;
and
power supply voltage used is between 2.5 V and 9 V both inclusive.

Claim 5 (Withdrawn): A driver circuit for an EL display panel comprising:
a first output current circuit including a plurality of unit transistors configured to pass a first unit current;
a second output current circuit including a plurality of unit transistors configured to pass a second unit current; and
an output stage configured to produce an output by adding an output current of the first output current circuit and an output current of the second output current circuit,
wherein the first unit current is smaller than the second unit current,
the first output current circuit operates in a low gradation region and a high gradation region according to gradations, and
the second output current circuit operates in the high gradation region according to gradations, and output current values of the first output current circuit do not change in the high gradation region when the second output current circuit operates.

Claim 6 (Withdrawn): A driver circuit for an EL display panel comprising:
a programming current generator circuit including a plurality of unit transistors
corresponding to output terminals;
first transistors configured to generate a first reference current that defines a current
flowing through the unit transistors;
gate wiring connected to gate terminals of the plurality of first transistors; and
second and third transistors whose gate terminals are connected to the gate wiring and
that form current mirror circuits in conjunction with the first transistors,
wherein a second reference current is supplied to the second and third transistors.

Claim 7 (Withdrawn): The driver circuit for an EL display panel according to claim
6, further comprising:
a programming current generator circuit including a plurality of unit transistors
corresponding to output terminals;
a plurality of first transistors configured to form current mirror circuits in conjunction
with the unit transistors; and
a second transistor configured to generate a reference current flowing through the first
transistors,
wherein the reference current generated by the second transistor branches through the
plurality of first transistors.

Claim 8 (Withdrawn): The driver circuit for an EL display panel according to claim
6, wherein in a driver IC chip which includes the driver circuit, the third transistor is
electrically connected, in an area in which the first reference current supply wirings are

placed, to two outermost placed wirings of the reference current supply wiring group placed in the area.

Claim 9 (Withdrawn): The driver circuit for an EL display panel according to claim 7, wherein in a driver IC chip which includes the driver circuit, the third transistor is electrically connected, in an area in which the first reference current supply wirings are placed, to two outermost placed wirings of the reference current supply wiring group placed in the area.

Claim 10 (Currently Amended): An EL display apparatus comprising:

a ~~first substrate on which driver transistors are placed in a matrix and~~ that contains a display area panel having pixels arranged in a matrix, each pixel including an EL element
~~elements formed corresponding to the driver transistors;~~

a source driver IC configured to apply a programming current or voltage to the pixels
~~driver transistors;~~

a first wiring formed on the ~~first~~ substrate and located under the source driver IC;

a second wiring electrically connected to the first wiring and formed between the source driver IC and a ~~[[the]]~~ display area; and

an anode wiring ~~that branches~~ branching from the second wiring and configured to apply ~~applies~~ an anode voltage to the pixels in the display area, a current being supplied to the EL elements via the anode wiring.

Claim 11 (Previously Presented): The EL display apparatus according to claim 10, wherein the first wiring has a light shielding function.

Claim 12 (Currently Amended): The ~~[[An]]~~ EL display apparatus according to Claim 10, further comprising:

~~a display area in which pixels with EL elements are formed in a matrix;~~
driver transistors configured to supply light-emitting currents ~~current~~ to the respective ~~pixels, EL elements;~~ and ~~a source driver circuit configured to supply programming current to the driver transistors,~~ wherein the driver transistors being ~~[[are]]~~ P-channel transistors, and transistors ~~that generate~~ configured to generate the programming current in the source driver IC being circuit ~~are~~ N-channel transistors.

Claim 13 (Withdrawn): An EL display apparatus comprising:

a display area in which EL elements, driver transistors configured to supply light-emitting current to the EL elements, first switching elements configured to form paths between the driver transistors and the EL elements, and second switching elements configured to form paths between the driver transistors and source signal lines are formed in a matrix;

a first gate driver circuit configured to perform on/off control of the first switching elements;

a second gate driver circuit configured to perform on/off control of the second switching elements; and

a source driver circuit configured to supply programming current to the driver transistors,

wherein the driver transistors are P-channel transistors, and

transistors that generate the programming current in the source driver circuit are N-channel transistors.

Claim 14 (Withdrawn): An EL display apparatus comprising:

EL elements;

P-channel driver transistors configured to supply light-emitting current to the EL elements;

switching transistors formed between the EL elements and the driver transistors;

a source driver circuit configured to supply programming current; and

gate driver circuits configured to keep the switching transistors off for two horizontal scanning periods or longer in one frame period.

Claim 15 (New): An EL display apparatus with a display panel on which pixels, each including an EL element, are placed in a matrix on a substrate, the EL display apparatus comprising:

a driver IC chip including a source driver circuit placed on the substrate and configured to output a programming current or voltage to the pixels;

a supply line configured to supply a current or voltage to the pixels, at least part of the supply line being arranged between the substrate and the driver IC chip; and

a wiring that branches from the supply line and extends to the pixels.

Claim 16 (New) The EL display apparatus according to Claim 15, wherein the supply line is an anode supply line having a base anode line, at least part of the base anode line being arranged in a free space between the substrate and the driver IC chip, a common anode line placed between the driver IC chip and a display area, and at least one connection anode line connecting the base anode line to the common anode line.

Claim 17 (New): The EL display apparatus according to Claim 15, wherein the supply line is arranged to perform a light-shielding function for a circuit forming section of the driver IC chip.

Claim 18 (New): The EL display apparatus according to Claim 15, further comprising:

a switch circuit arranged in an output stage of the source driver circuit and configured to turn on and off an output of the programming current or voltage.

Claim 19 (New): The EL display apparatus according to Claim 15, wherein the pixel includes a driver transistor supplying a current to the EL element, a switching transistor supplying, to the driver transistor, a signal applied to a source signal line, and a capacitor placed between a gate terminal of the driver transistor and an output terminal of the switching transistor.

Claim 20 (New): The EL display apparatus according to Claim 15, wherein the pixel includes a driver transistor supplying a current to the EL element, and a switching transistor on a current path, and the current is controlled by turning on and off the switching transistor to generate strip-like non-display areas and strip-like display areas in a display screen.

Claim 21 (New): The EL display apparatus according to Claim 15, wherein a display screen is configured with red pixels, green pixels, blue pixels and white pixels, each being arranged in a matrix.

Claim 22 (New): The EL display apparatus according to Claim 15, wherein a display screen is configured with pixels of a first color and pixels of a second color, each being arranged in a matrix, the pixels of the first color having a different size from the pixels of the second color.

Claim 23 (New): The EL display apparatus according to Claim 15, wherein strip-like non-display areas and strip-like display areas are generated in a display screen, the strip-like non-display area and the strip-like display area moving in a top-to-bottom or bottom-to-top direction while images are displayed.

Claim 24 (New): The EL display apparatus according to Claim 15, further comprising:

a detector configured to detect brightness of extraneous light to vary, based on an output of the detector, a ratio of strip-like non-display areas and strip-like display areas generated in a display screen.